

The method involves priming up discharge conduits connected to discharge ports by placing discharge conduits into an empty bucket and priming each pump with connected suction and discharge conduits with hydrostatic pressure, as shown in box 208.

The method involves allowing the bucket to partially fill, as shown in box 209.

The method involves removing each discharge conduit from a partially filled bucket, as shown in box 212.

The method involves connecting each discharge conduit to a manifold, as shown in box 216.

The method involves sequentially starting operation of each pump and initiating chemical flow from the chemical totes simultaneously, as shown in box 220.

The method involves monitoring each pump for flow rate changes, flow blockages and electrical faults as shown in box 224.

The method involves modifying pump flow rates when pump flow rates rise above or fall below preset limits due to flow rate changes, flow blockages and electrical faults, as shown in box 228.

The method involves measuring an amount of chemical removed from each chemical tote at preset time periods during operation of the pumps, as shown in box 232.

The method involves comparing removed chemical from each chemical tote to expected quantities of removed chemical during operation, as shown in box 236.

EXAMPLE—METHOD FOR USING AN AUTOMATED WATER TREATMENT TRAILER AND PROCESSING MULTIPLE FLUIDS SIMULTANEOUSLY

For two fluids. The first fluid is a biocide.

The second fluid is stabilized chlorine dioxide.

The automated water treatment trailer is an 8 foot by 16 foot frame with two axles, with two tires per axle, a 3 foot long tongue for connecting the frame to a Ford F 150 pick up truck.

A base is mounted on the frame and is made from plywood creating a floor.

Four connected walls are mounted around the entire base.

A weatherproof top engages each of the plurality of connected walls opposite the base forming an enclosure that is 8 feet wide by 16 feet long by 7 feet high.

Two locking doors are used with the enclosure.

A first locking door can be mounted into the wall at the back of the automated water treatment trailer. The first door can be 6.5 feet high and 7.5 feet wide. The first locking door is hinged.

The second locking door can be mounted in a side-connected wall. The second locking door can be 6.5 feet high and 4 feet wide.

Two discharge ports 30a-30b are mounted in the same connected wall as the second door.

Two suction ports 32a-32b are mounted in same connected wall.

Each suction port connects to a chemical tote mounted on at least one adjacent structure. The suction port pulls chemicals from the chemical tote. One suction ports can connect to chlorine dioxide chemical totes and two suction ports can connect to biocide chemical totes.

A manifold is mounted to a water pipe and in fluid connection with two discharge ports. The manifold is configured to control flow fluid from the two discharge ports into a water pipe.

A charging port 34 is mounted in one of the connecting walls for charging simultaneously, two client devices from outside the enclosure.

Two pumps mounted in the enclosure and connected in parallel, pull chemical from the chemical totes and flow the chemical to the plurality of discharge ports simultaneously.

A controller that is a computer is in communication with each of the pumps and with a network, which in this example, is the Internet to communicate with at least one client device for remote monitoring and control.

Two pressure gauges are used to measure pressure on fluid flowing from each pump. Each pressure gauge is in communication with the controller.

A power supply that is a generator that generates AC 110 volt current electrically connects to each of the pumps, as well as the controller and the charging port.

Two valves, which in this case are ball valves, are used. Each valve fluidly engages one of the plurality of suction ports.

Two back pressure valves are used in this example. Each back pressure valve is mounted to one of the ball valves.

The automated water treatment trailer automatically provides the two different fluids at different flows by remote control and preset pressures that relate to fluid characteristics and specific gravities as well as pressure in the water pipe.

While these embodiments have been described with emphasis on the embodiments, it should be understood that within the scope of the appended claims, the embodiments might be practiced other than as specifically described herein.

What is claimed is:

1. An automated water treatment trailer for processing multiple fluids simultaneously, each fluid with a fluid characteristic and a specific gravity, the automated water treatment trailer comprising:

- a. a frame with at least one axle, and a tongue for connecting the frame to a tow vehicle;
- b. a base creating a floor, mounted to the frame;
- c. a plurality of connected walls mounted to the base;
- d. a weather-proof top engaging each of the plurality of connected walls opposite the base forming an enclosure;
- e. a pair of locking doors, each door mounted into a respective one of the plurality of connected walls;
- f. a plurality of discharge ports mounted in one of the connected walls;
- g. a plurality of suction ports equal to the quantity of the plurality discharge ports mounted in one of the plurality of connected walls, each suction port connected to a chemical tote mounted on at least one adjacent structure for pulling chemicals from the chemical tote;
- h. a manifold mounted to a water pipe and in fluid connection with the discharge ports configured to control flow fluid from the discharge ports into the water pipe;
- i. at least one charging port mounted in one of the plurality of connecting walls for charging a client device from inside or outside the enclosure, wherein the charging port connects to a power supply;
- j. a plurality of pumps mounted in the enclosure and connected in parallel, each a pump of the plurality of pumps configured to pull chemical from a respective one of the chemical totes and flow the chemical to a respective one of the plurality of discharge ports simultaneously;